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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,651	07/28/2003	Joseph W. Harris	JWH / 59US	4424

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EXAMINER	
IP, SIKYIN	

ART UNIT	PAPER NUMBER
1742	

MAIL DATE	DELIVERY MODE
06/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/628,651	HARRIS, JOSEPH W.	
	Examiner	Art Unit	
	Sikyin Ip	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-7,22,25 and 35-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-7,22,25 and 35-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/28/03* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5-7, 22, 25 and 35-44 are rejected under 35 U.S.C. § 103 as being unpatentable over PL 149319 in view of CN 1060052. (References are cited in parent application).

PL 149319 in the abstract discloses the features including the claimed solid brazing components – Cu alloy powder intermediate product. The difference between PL 149319 and the claims are as follows: PL 149319 does not disclose the claimed Mn, liquidus, solidus, thermal arrest temperatures, and forms of the brazing component. However, the claimed Mn content reads on zero which suggests Mn can be eliminated from the brazing alloy. The claimed liquidus, solidus, and thermal arrest temperatures

are material properties which would have been inherently possessed by the material disclosed by PL 149319. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product.

In re Best, 195 USPQ, 430 and MPEP § 2112.01.

> "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)."

With respect to the form of the brazing component, CN 1060052 discloses brazing solder component could be formed into rods, ingots, strips, or powder. Therefore, it is contemplated within ambit of ordinary skill artisan to form the brazing component into form suitable for the brazing application such as a rod without paste and carrier. It is well settled that the form of reactants is believed mere a choice between well known forms of such substances. In the absence of evidence of some unobvious

aspect of their selection, use of those substances would seem to add nothing of patentable significance to the instant claims. In re Austin, et al., 149 USPQ 685, 688.

With respect to the recited "fluxless" limitation in claims 39-42 that PL 149319 teaches to add paste to lower the brazing temperature. In view of said teaching in PL 149319 that it is contemplated within ambit of ordinary skill artisan to eliminate paste when lower brazing temperature is not needed. It is well settled that omission of an element (here paste and carrier) and its function where not needed is obvious. Ex parte Rainu, 168 USPQ 375 (PTO Bd. of App. 1969) and In re Karlson, 136 USPQ 184 (CCPA 1963). Moreover, CN 1060052 teaches solder/filler Cu alloy similar to PL 149319 can be formed as rods.

Claims 39-42 are further rejected under 35 U.S.C. 103(a) as being unpatentable over PL 149319 as applied to claims above, and further in view of USP 3428442 to Yurasko or USP 3674471 to Joseph.

PL 149319 discloses the Cu based brazing powder and carrier as set forth in the rejection above except for using the Cu based brazing alloy powder without carrier. However, Yurasko teaches Cu based alloy powder (col. 2, lines 10-18) can be used in flame spraying (col. 1, lines 14-38). Joseph teaches Cu based alloy can used in cast rod or powder form (col. 1, line 55 to col. 2, line 10) for flame spraying (col. 1, lines 30-32) in the same field of endeavor or the analogous metallurgical art. It is well settled that the form of reactants (here brazing powder) is believed mere a choice between well known forms of such substances. Use of those substances would add nothing of patentable significance to the instant claims. In re Austin, et al., 149 USPQ 685, 688.

Claims 35-42 are rejected under 35 U.S.C. § 103 as being unpatentable over EP 465861 in view of CN 1060052. (References are cited in parent application).

Claims 22, 25, 35-42, and 44 are rejected under 35 U.S.C. § 103 as being unpatentable over SU 1706816 or USP 3428442 to Yurasko in view of CN 1060052. (References are cited in parent application).

EP 465861 (abstract), SU 1706816 (abstract), or Yurasko (col. 2, lines 10-18) discloses the features including the claimed solid brazing components – Cu alloy solder. The difference between and the claims are as follows: EP 465861 or SU 1706816 does not disclose the claimed liquidus, solidus, thermal arrest temperatures, and forms of the brazing component. However, the claimed liquidus, solidus, and thermal arrest temperatures are material properties which would have been inherently possessed by the material disclosed by cited references. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product.
In re Best, 195 USPQ, 430 and MPEP § 2112.01.

With respect to the form of the brazing component, CN 1060052 discloses brazing solder component could be formed into rods, ingots, strips, or powder. Therefore, it is contemplated within ambit of ordinary skill artisan to form the brazing component into form suitable for the brazing application such as a rod without paste and carrier. It is well settled that the form of reactants is believed mere a choice between well known forms of such substances. In the absence of evidence of some unobvious

aspect of their selection, use of those substances would seem to add nothing of patentable significance to the instant claims. In re Austin, et al., 149 USPQ 685, 688.

Claims 22, 25, 35-38, and 44 are rejected under 35 U.S.C. § 103 as being unpatentable over CN 1060052. (References are cited in parent application).

Claims 1, 5, 22, and 43 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 3674471 to Joseph.

CN 1060052 (abstract) or Joseph (col. 1, line 55 to col. 2, line 3) discloses the features including the claimed solid brazing components and structures. The difference between cited references and the claims are as follows: Cited references do not disclose the claimed liquidus, solidus, and thermal arrest temperatures. However, the claimed liquidus, solidus, and thermal arrest temperatures are material properties which would have been inherently possessed by the material disclosed by cited reference. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product. In re Best, 195 USPQ, 430 and MPEP § 2112.01.

Response to Arguments

Applicant's declarations and arguments filed August 18, 2006 have been fully considered but they are not persuasive.

Applicant in Fourth Affidavit argue

" ~~and H-2 to fall outside the scope of the Polish Abstract. However,~~ Alloys C-2, D-2 and H-2 compared to Alloys C-1, D-1 and H-1 were simply intended to show the effect of eliminating silver. " But, none of the brazing alloys of PL 149319 and instant claimed brazing alloys excludes silver.

Applicant argues that the alloys from A to H-2 in declaration filed September 6, 2005 are outside the claimed scope but within broad ranges of PL 149319 brazing alloy. But, examiner agrees with Mr. Henson's statement in Fourth Affidavit page 2 of 3 that

" ~~claim, yet be inoperable or non-ideal. It is my understanding that~~ not all possible embodiments of a claim must be operable so long as one skilled in the art can to determine whether an embodiment is operable or not in view of the specification. ~~With respect to Alloy F, while it~~ " This statement is true for disclosure purpose but not when applicant wants to show criticality and unexpected result of claimed composition ranges. Applicant failed to show claimed composition range(s) is critical from end-point to end-point. Comparison must be done under identical condition except for the novel features of the invention. In re Brown, 173 USPQ 685 and In re Chapman, 148 USPQ 711. The showing of unexpected results must be occurred over the entire claimed range. In re Clemens, 622 F.2d 1029, 206 USPQ 289, 296 (CCPA 1980). The scope of the showing must be commensurate with the scope of the claims. MPEP § 716.02(d), In re Tiffin, 448 F.2d 791, 792 (Fed. Cir. 1971), In re Coleman, 205 USPQ 1172, In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983), and In re Greenfield, 197 USPQ 227.

that I did not include two necessary clarifications. It was my intent to state that Alloys I-K fall within the broad range disclosed in the second sentence of the Polish Abstract, and fall within the claimed ranges in the independent claims of the present application with respect to the P, Si, and Sn contents. Alloys I-K were investigated with the intent to show the relationship, and indeed the criticality, of the P and Sn ranges. Further, Alloys I-K do not fall within the scope of each and every claim in the present invention. However, Alloys I-K do fall within the scope of at least one rejected claim, namely at least claims 35 and 39.

Mr. Henson's statement " " in Fourth Affidavit is noted. Since alloys I-K in declaration fall within both instant claimed ranges and ranges of prior art, said alloys fail to show prior alloys are inoperable or claimed alloys possess unexpected result.

Applicant's argument in paragraph bridging pages 7-8 of instant remarks is noted but it failed to show claimed ranges are critical or possessed unexpected. According to Mr. Henson's statement immediately above, that alloys I-K in said Table A fall in scope of claimed alloy and prior art alloys. So tests in Table A fail to separate the claimed compositions from prior art compositions. Applicant is reminded that comparison must be done under identical condition except for the novel features of the invention. In re Brown, 173 USPQ 685 and In re Chapman, 148 USPQ 711. The showing of unexpected results must be occurred over the entire claimed range. In re Clemens, 622 F.2d 1029, 206 USPQ 289, 296 (CCPA 1980). The scope of the showing must be commensurate with the scope of the claims. MPEP § 716.02(d), In re Tiffin, 448 F.2d 791, 792 (Fed. Cir. 1971), In re Coleman, 205 USPQ 1172, In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983), and In re Greenfield, 197 USPQ 227.

Applicant's argument in paragraph bridging pages 8-9 of instant remarks is noted. But, brazing powder composition of PL 149319 is known in the art of cited references. Brazing powder can be flame spraying without carrier/flux (see USP

3674471, col. 1, line 30 to col. 2, line 3 and USP 3428442, col. 1, line 13 to col. 2, line 20).

Applicant's argument in page 9, first full paragraph of instant remarks is noted. But, applicant fails to show claimed ranges are critical for the claimed properties.

Applicant's argument in page 10, first paragraph is noted. But, there is no evidence that applicant wants to decrease joint strength and increase shrinkage porosity.

Conclusion

Applicant is reminded that when amendment and/or revision is required, applicant should therefore provide a concise explanation and support with page and line number in the specification for any amendments made to the disclosure. See 37 C.F.R. Part §41.37 (c)(1)(v).

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
June 22, 2007